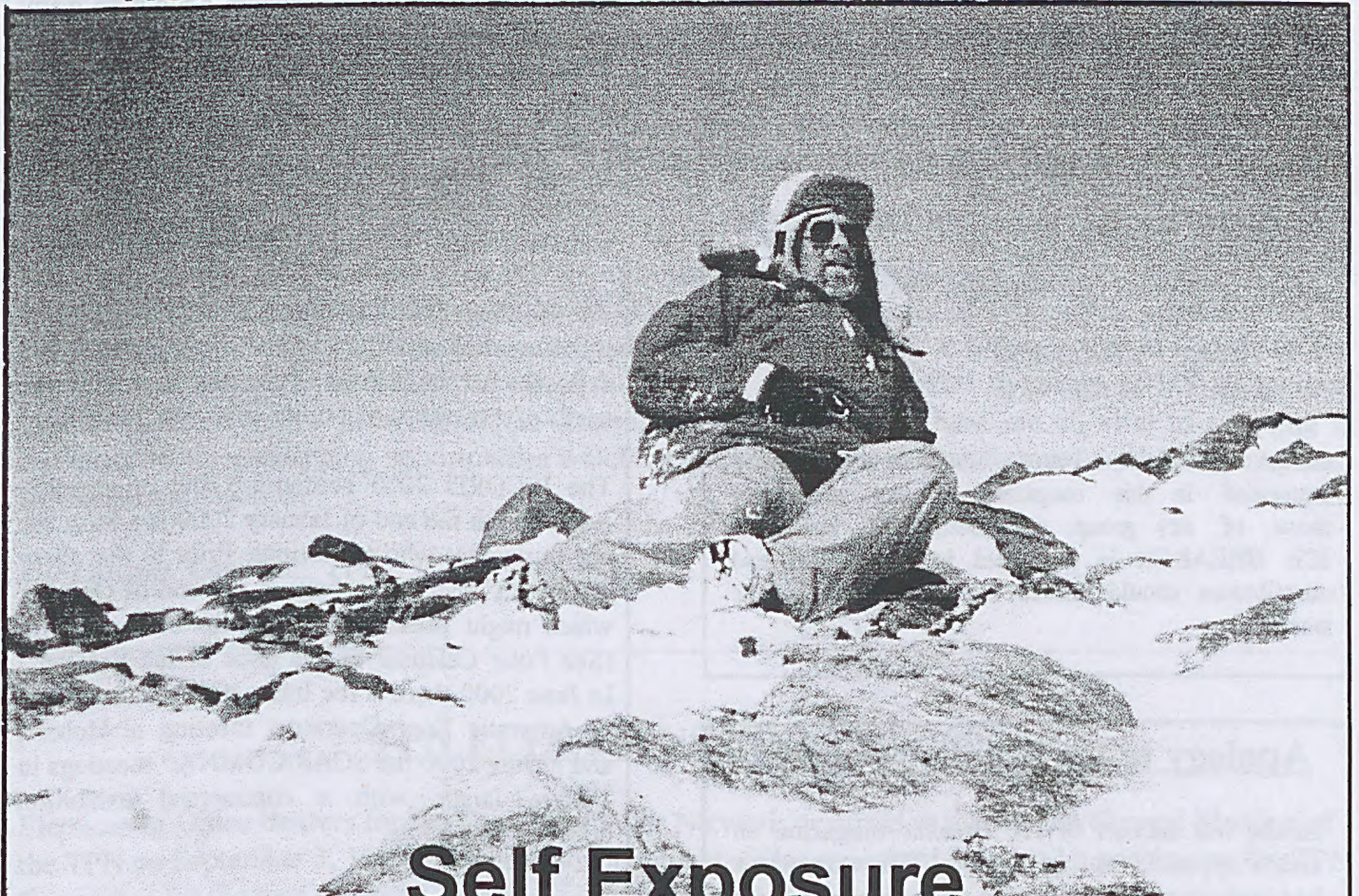


ICE BREAKER

No.8

September 1999



**Self Exposure
and
The French Connection**

ICE BREAKER

ICE BREAKER is published independently by Malcolm Wallhead and Associates as a quarterly magazine covering Tasmanian Polar and Southern Ocean related topics.

EDITOR
MALCOLM WALLHEAD

PRODUCTION CO-ORDINATOR
ANTHEA WALLHEAD

Comments and contributions for inclusion in future editions are most welcome. Please address them to:-

EDITOR, ICE BREAKER
MALCOLM WALLHEAD AND ASSOCIATES
240 WATSONS ROAD
KETTERING, TASMANIA, 7155

PHONE: 03 6267 4774
FAX : 03 6267 4335

Unless specifically stated otherwise, the views expressed in this magazine are not necessarily those of any group, organisation, or institution. ICE BREAKER is published in good faith and contributors should ensure the truth of any facts stated.

Apology to Ice Breaker readers.

In the last edition of Ice Breaker magazine an article appeared stating that the TPN committee had authorised the production of header boards for use on their display stands and suggested that the design for a revised decal had also been agreed to.

This information was understood to be correct at the time of publication. However, after production of the items mentioned, the designs were formally rejected by the TPN committee and it is understood that they have not at this stage selected an alternative acceptable set of designs.

MW

EDITORIAL

Self exposure.

Are you prepared to expose yourself, your business, and the goods and services that you have to offer? Do you have good quality mounted photo's, graphics and text ready to mount in a display as soon as the next opportunity comes along?

Self exposure is one of the most important aspects of any business venture, large or small, and yet it is so often treated as a last minute thought by many businesses. There are instances where companies will spend hundreds of dollars with an advertising agency to make a small magazine advertisement look professional, and then E-mail a misspelt, almost incomprehensible press release to a newspaper editor, and stick display photo's to a wall with "Blue-tack" as their display effort!

The coming twelve months are shaping up to provide many opportunities for a great deal of self exposure for those firms committed to serving the needs of Antarctica and other cold climate regions.

The ISCORD 2000 conference and commercial exhibition at the end of January 2000 is a must for any businesses who are serious. Prior to that there are the CCAMLR meetings at the end of October which might present opportunities of their own. (See Polar Calendar in this issue of Ice Breaker.) In June 2000 there is the International Association of Antarctic Tour Operators meeting in Hobart, and in July 2000 the SCAR/COMNAP meetings in Tokyo, Japan, with a commercial exhibition between 10-13 July.

Are you prepared?

Don't wait for the Tasmanian Polar Network or anyone else to ask you to contribute to the next event, start your glory box NOW!

MW

Cover Photo: Rod Ledingham by Rod Ledingham

TPN CHAIRMAN'S MESSAGE

We are now on the verge of an exciting period for the Tasmanian Polar Network, Tasmania and Hobart in particular.

The Report to Senator Hill regarding the future means of transport to Antarctica is now complete and is now with the Minister for appraisal and hopefully for release soon for public scrutiny and comment. (See report in this Issue. - Ed.) The Tasmanian Government and the TPN made submissions to the Study representing Tasmania as the best base for an Airlink should that be the Government's chosen course of action. Several Network Members made individual submissions. We need to follow this up with well thought through and constructive comment if that is invited, as expected.

This feed back will be most credible and useful if it is made both as the collective TPN Body and as individual traders from their respective points of view. I therefore urge all TPN members to look for the Report's release and to respond as appropriate as a means of emphasising Tasmania's claims for the Airlink to be based here.

Public awareness of Antarctica and Sir Douglas Mawson in particular is about to be heightened by the new Mawson Exhibition which Antarctic Adventure is opening in September. This will be enhanced further by the Hobart City Council's current consideration of naming part of the foreshore precinct after Sir Douglas.

At the last TPN meeting we welcomed the CEO of the Tasmanian Chamber of Commerce and Industry, Tim Abey, as our guest in order to allow him to become aware of the Network and it's purpose. I believe that there are strong synergy's between the two Organisations in respect of commercial opportunities for our State and City and that there may be good sense in developing a collaborative approach to our common interests. It is my belief that all of these issues; viz the potential Antarctic Airlink, heightened public awareness and a widening of the Tasmanian Polar Network's base are all vital to us being in readiness for the challenging opportunities which lie just ahead of us. I look forward to their development with eager anticipation.

Bill Lawson. Chairman, TPN.

TPN ELECTIONS FOR 1999/2000

Elections of Office Bearers for the Tasmanian Polar Network occurred at the Annual General Meeting of the TPN on September 3, 1999, and the following members have retained or gained a position on the TPN Committee for the next Financial Year.

President	Bill Lawson (Sinclair Knight Merz)
Senior Vice President	Malcolm Wallhead (Malcolm Wallhead and Associates)
Vice President	Antoine Guichard (Latitude Technologies)
Treasurer	Hugh Hutchinson (Bureau of Meteorology)
Secretary and Public Officer	Tony Hughson (Office of Antarctic Affairs)
Members' Representative	Jennifer Trethewey (Antarctic Adventure)
Members' Representative	Wayne Tucker (Hobart International Airport)
Members' Representative	Leigh Hornsby (Helicopter Resources)
Auditor	Rendell Ridge (Max Peck and Associates)

POLAR NEWS

NEW BRITISH POLAR SHIP

British Antarctic Survey (BAS) and its parent body the Natural Environment Research Council (NERC) have recently concluded a Private Finance Initiative shipping contract with Rieber Shipping AS/Polar Holding ASA of Norway. The 30 million pound, ice-strengthened ship POLAR QUEEN, built in 1995, will replace the 30-year-old royal research ship BRANSFIELD and will be renamed ERNEST SHACKLETON.

OCEAN OFFICE

One of the key commitments of the Federal Government in its Australia's Ocean policy, the National Oceans Office, will be based in Hobart. The Office will work closely with the Australian Antarctic Division and CSIRO to oversee the establishment and implementation of marine plans, which encompass ecosystem-based management and promotion of ocean industries, scientific research and community needs.

SINGAPORE TEAM

Next year, Singapore's first Antarctic expedition members will be equipped with specially designed COMPAQ Rugged Handheld Computers (RH1000), in order to communicate with their base camp and rescue systems, as well as sponsors and the media monitoring their progress from Singapore. The RH1000 is a lightweight unit in a single, solid, waterproof case with large buttons which can be used with heavy gloves, and a built-in heating coil to maintain a minimum operating temperature. (www.antarctica2000.com.sg)

ANTARCTICA RETAINED

Congratulations to Peter Hodgman for retaining his Antarctic Affairs Portfolio in the recent reshuffle in the State Liberal Party Shadow Cabinet. His continuing support of Antarctic activities and the TPN is much appreciated.

IDITAROD FATHER DIES

Joe Redington, who died at Knik, Alaska on June 24, 1999, was the founder of one of the world's most challenging wilderness adventures, the famous annual Dog Sled Race (Iditarod) between Anchorage and Nome in Alaska. He organised the first 1700 km race in 1973 to commemorate a 1925 dog sled relay that delivered life-saving diphtheria serum to Nome and he tirelessly promoted the race since that time. His personal best result was in fifth place in 1975: his quickest time was 12 days in 1989, and his 36th place in 1997 when aged 80 was considered a triumph.

AUSTRALIAN SLED DOG RIDES

Greg and Shelley Badior of Falls Creek, Victoria, have been granted a three year licence to run sled dog tours in winter. This is the only commercial sled dog business in the Southern Hemisphere and involves a team of Alaskan Malamutes hauling sleds carrying two adults and one child over a 10 km trail.

ANTARCTIC TREATY SECRETARIAT

Hobart's bid to host the Antarctic Treaty Secretariat will no longer be promoted by the State Government because the improving relationship between Argentina and Britain is likely to lead to the latter accepting Buenos Aires as the preferred site. Premier Jim Bacon's focus will now be on marketing Hobart's competitive advantages as an international departure point for Antarctica.

SHIP ASSESSED

P&O Polar have introduced a range of measures to ensure the problems which beset AURORA AUSTRALIS last season will not recur. The Australian Maritime Incident Investigation Unit report on last year's fire found human oversight was to blame, as both the hose which caused a fuel leak and the Halon gas smothering system in the engine room had not been maintained satisfactorily.

Peter Hodgman Writes

I get the feeling, rightly or wrongly, that the public profile of Antarctic Affairs seems to be waning.

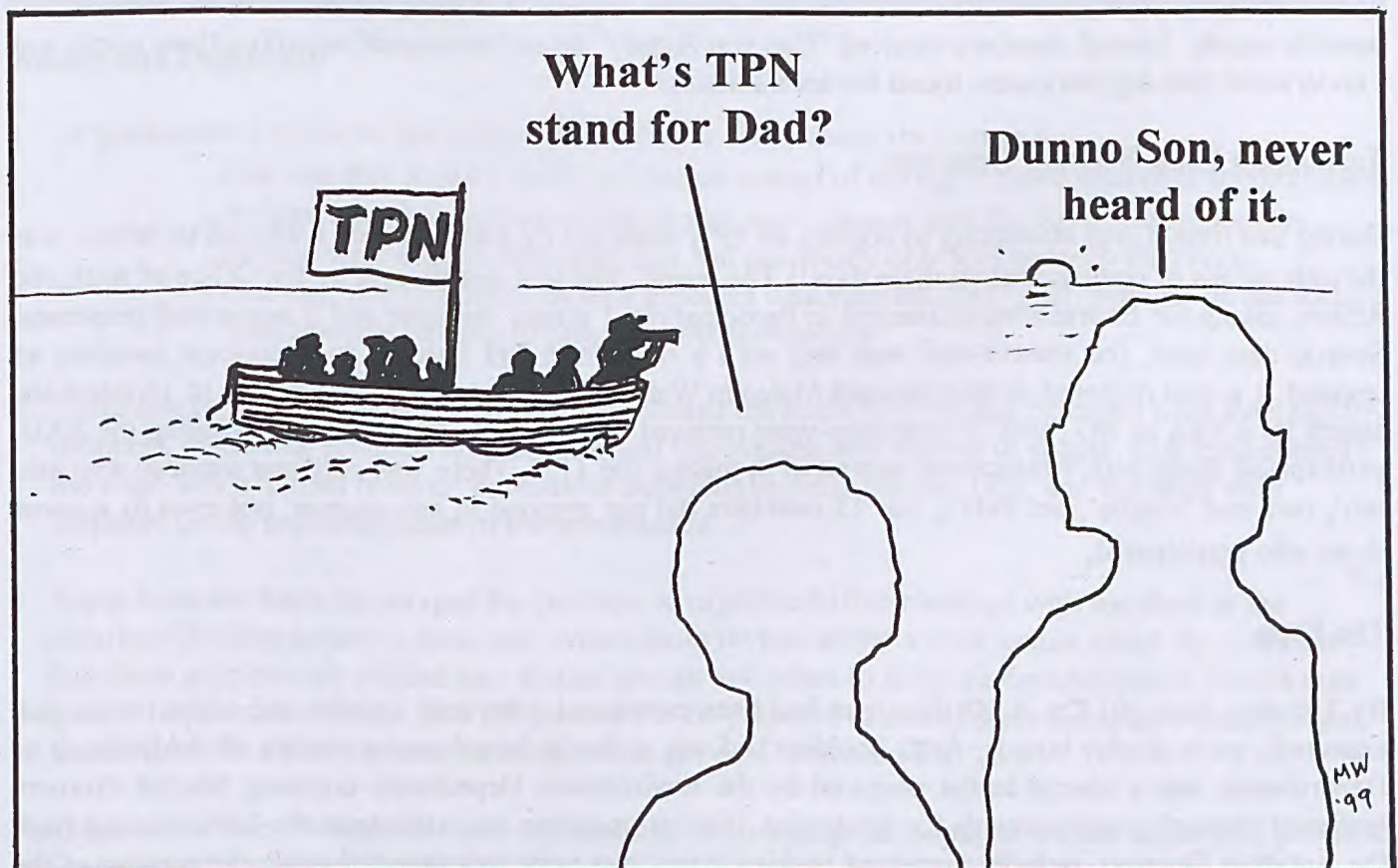
I am aware that a lot of things have been happening through the Tasmanian Polar Network such as the recent Expo at the Australian Antarctic Division. However, I don't believe the general public are as captivated by Antarctic matters as they used to be.

At the TPN Search Conference in February this year the workshop identified priorities for the Network but I believe that we need to add to that. A major marketing campaign is needed to remind the Tasmanian public of the enormous benefit in economic and employment opportunities that Antarctica creates.

The Premier's recent visit to France resulted in an excellent outcome and I congratulate the Government accordingly.

I met with Dr. Tony Press, Director of the Australian Antarctic Division who advised me on general matters relating to the Antarctic. I was pleased to hear that progress has been made with possible flights to Antarctica later this year. I would also like to congratulate Tony for the significant results he is achieving in his capacity as Director. Finally, I would also like to thank Malcolm and Anthea Wallhead for their tremendous effort in producing ICE BREAKER magazine.

Peter Hodgman
Shadow Minister for Antarctic Affairs



THE IMPORTANCE OF SELF EXPOSURE #16

THE TASMANIAN POLAR NETWORK

POLAR SUPPLIERS EXPO - 29 JUNE, 1999

By Anthea Wallhead

Background

The idea for a Polar Suppliers Expo, where Tasmanian Polar Network members could meet Australian Antarctic Division staff in situ, was put forward to the past President of the TPN, Jim Playsted, about two years ago, and the idea progressed to the stage of Debra Hill from the Office of Antarctic Affairs, and myself, a TPN Committee Member, speaking to Jenny Jones, Head of the Purchasing Department of the AAD. Unfortunately, the idea was not put to the AAD Executive Committee as expected, and nothing further happened until this year, when the TPN was incorporated and elected a new Chairman. The Antarctic Division also had a change of leadership and a change of attitude towards the relevance of the TPN as a whole.

Antarctic Division Response

Dr Tony Press met with Bill Lawson and myself on May 17, 1999 to discuss the possibility of a Polar Suppliers Expo and he welcomed the idea wholeheartedly. He agreed with the draft communications I had prepared to alert AAD staff and TPN members to the Expo, and thanks must go to Dr Press for his co-operation and to Kim Pitt for overseeing the Expo arrangements. Kim delegated the task of e-mailing AAD staff to Renata Limbrick and Jenny Jones, both of whom made sure all staff were notified several times about the Expo, and ensured staff sent in specific requests for goods which TPN members could possibly supply. Several members received "Can you Supply" faxes from myself regarding these goods and I understand new suppliers were found for several items.

Tasmanian Polar Network Response

During this time, I was attempting to contact all TPN members by e-mail (which I was led to believe was the only means of communicating these days!) The result? The first e-mail, sent by the Office of Antarctic Affairs, asking for Expressions of Interest in Participating: 1 e-mail response and 2 non-e-mail responses. Several days later, the same e-mail was sent with a rider from Bill Lawson to encourage members to respond: 1 e-mail response. It was not until Malcolm Wallhead sent out a large lettered fax to 14 members, asking for a YES or NO, that 10 responses were received. In all 16/32 TPN members, including the AAD, participated along with 4 businesses interested in joining the TPN. There was only one member who said 'no', two said 'maybe', but didn't, but 13 members did not respond in any manner, not even to support those who participated.

The Expo

By Tuesday, June 29, The AAD theatre had been prepared by the staff - chairs and tables (more than expected), extra display boards, AAD booklets laid out, a display board poster naming all AAD Heads of Departments, and a special leaflet prepared by the Environment Department outlining Madrid Protocol preferred packaging requirements for Antarctica. The co-operation and assistance the TPN received from the Antarctic Division, including reserved parking areas, was very welcome and made the running of the Expo very smooth.

The Expo was opened shortly after 10.00 a.m. by Bill Lawson, who took time from his Abt Railway Parliamentary commitments, and Dr Tony Press, who briefly introduced himself to TPN members before returning to his meetings. The TPN members organised themselves around the theatrette and received a stream of visiting AAD personnel, some of whom returned several times and others stayed over an hour to discuss supplies. In addition to the brochures available from members, Tony Hughson and Cordula Ruckstuhl (OAA) prepared information sheets and listings of members, their contact numbers and areas of expertise which I inserted into TPN folders and distributed to as many AAD staff as possible. Since the Expo was also a good opportunity for TPN members to get to know each other better, the noise level in the theatrette continued to attract visitors until after 3.00 p.m.



Results and Follow-up

1. All participants I spoke to had positive comments to make about the Expo e.g.
 - One was able to see 6 likely purchasers instead of having to make individual appointments
 - At least two had products available that were cheaper than the AAD's usual supplier.
 - Several were able to meet staff they had previously only spoken to on the phone.
 - One was able to discuss his new products with relevant AAD staff, whereas he had had little positive response to previous communications.
2. According to Jenny Jones, all AAD staff who visited the Expo felt they had benefited from meeting TPN members, discussing products and services, and discovering new sources of supply. Kim Pitt believed the Expo was a 'circuit breaker' in relations between the AAD and the TPN, and that staff were surprised by the professionalism of the presentation.
3. Jenny Jones has been encouraged by the Expo to organise further meetings with suppliers at the Antarctic Division sometime next year, where those invited attend a brief lecture about the AAD and then these suppliers are divided into smaller groups and taken to different departments to discuss their specific requirements. I urge all TPN members to be prepared to attend these meetings when arranged, to continue this closer communication between the AAD and the TPN.

Finally, I would like to thank all those who assisted in arranging the Expo, as well as those who provided information and participated in the Expo.

ANTARCTIC AIR LINK UPDATE

A major Commonwealth study of air transport options between Australia and Antarctica has found that a direct intercontinental air link is feasible and would significantly benefit Australia's Antarctic program.

The report, released today by Environment Minister Robert Hill, lists twelve options as feasible and efficient, and recommends that four of these be subject to further practical investigations and market testing through a competitive tender process. The four shortlisted options are based on use of ice and snow landing surfaces.

"The government's principal concern is to increase the efficiency of our science program by getting scientists and other personnel to and from Antarctica more efficiently than we currently do," Senator Hill said.

"This study opens up the prospect of rapid and more flexible deployment of research teams to and within Antarctica, and greatly improved capacity to support important airborne and remote area research in Antarctica.

"It is proposed that existing areas of blue ice or snow are used as landing areas instead of the alternative of constructing a conventional gravel runway. These ice and snow airstrips would be located well away from wildlife habitats, minimising the potential effects of air traffic on seals, birds and vegetation," he said.

The study recommends that transport aircraft such as the C130 Hercules be used for intercontinental flights from Hobart to Antarctica, with smaller ski-equipped aircraft providing the link to other stations and support for airborne and remote area research.

Three of the intercontinental options have wheeled aircraft landing on blue ice near Davis or in the Bunger Hills west of Casey, and one option has ski-equipped Hercules landing on a snow skiway near Casey. The study recommends further field surveys, glaciological observations and weather monitoring in Antarctica to confirm the suitability of the runway sites, and further examination of ski-equipped aircraft availability and acceptability.

Senator Hill has accepted the report's recommendations and asked the Australian Antarctic Division to carry out the proposed investigations during the coming summer.

"A final decision to proceed with air transport to Antarctica will follow completion of the investigations next summer and analysis of the cost of the service based on a competitive commercial pricing process.

"A full environmental impact assessment in accordance with Commonwealth legislation and Antarctic Treaty obligations will be undertaken before any final decision," Senator Hill said.

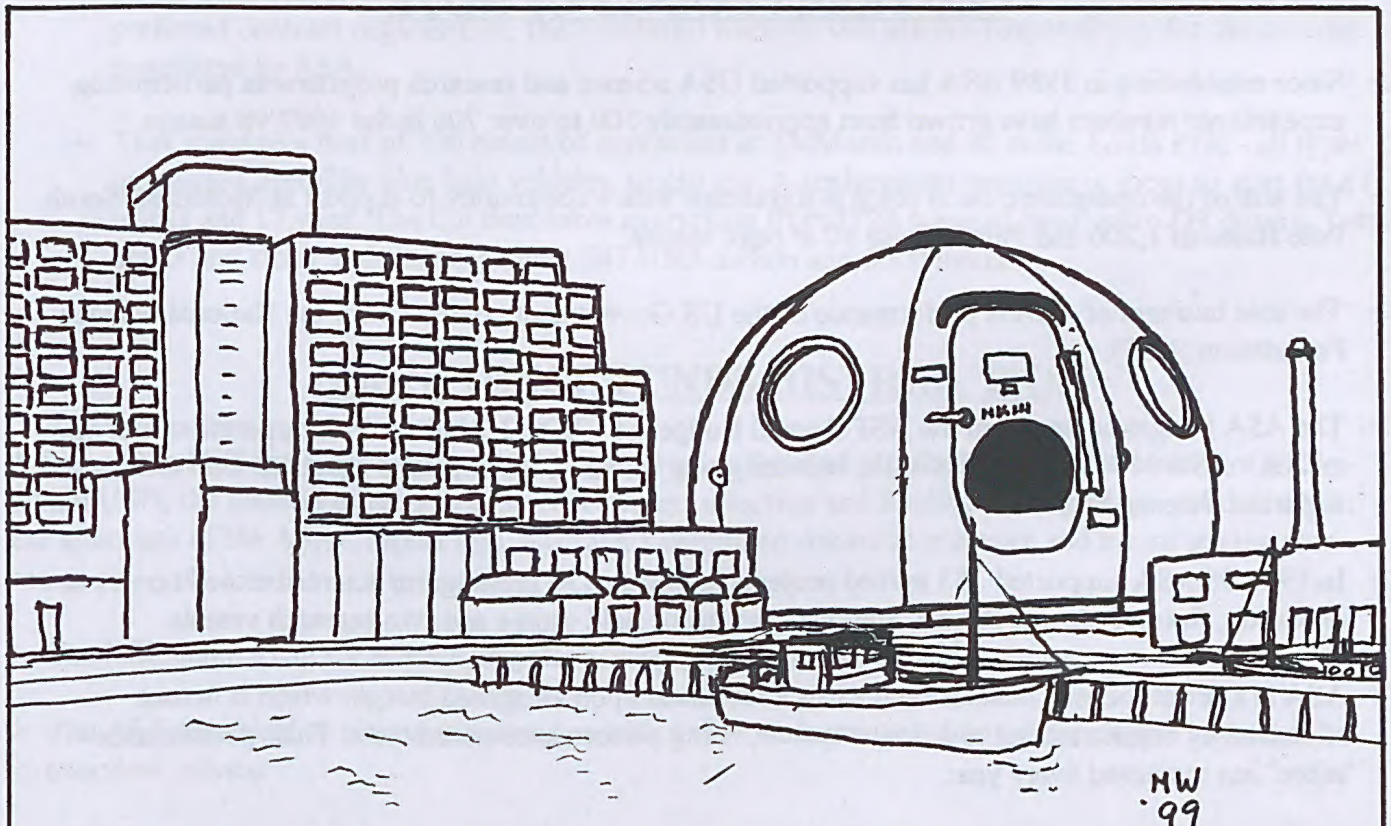
AAD Press Release, 1 September 1999.

When this Press Statement was released in Hobart last week, there were some very positive and enthusiastic comments from the polar community.

On ABC Radio last Thursday, the Premier and Minister for Antarctic Affairs, Jim Bacon, praised the value of the bi-partisan efforts made to establish and promote Hobart as Australia's major departure point for Antarctica. The Premier also acknowledged the part that the now Shadow Minister, Peter Hodgman, and the Liberal Government had played in promoting Antarctic activities in Hobart and in Tasmania in general. He said that the infrastructure necessary to cater for Antarctic-bound aircraft would boost Tasmania's economy as well as increase business to those companies already providing polar goods and services.

Also on ABC Radio that morning, Dr Tony Press, Director of the Australian Antarctic Division, indicated that he was very relieved that the Federal Government had accepted the essence of the Division's recommendations, and he explained that surveys of preferred sites in Antarctica could now be carried out during the 1999/2000 summer. The supply of the air transport system, he added, would be a test for the commercial market, with the provision of a suitably equipped Hercules aircraft being essential.

Tony Hughson, Director of the Office of Antarctic Affairs and Secretary of the Tasmanian Polar Network, was quick to congratulate all TPN members who assisted with the compilation of a Government/TPN Report prepared for inclusion in the Antarctic Division's submission. In addition, first on the Agenda at last Friday's TPN meeting was the Chairman Bill Lawson's reiteration of this praise and his expression of delight at the Government's recommendation of Hobart as the preferred departure point.



**The all Tasmanian solution to the Grand Chancellor's
new concert hall conundrum**

ANTARCTIC SUPPORT ASSOCIATES

TPN member company, Caterpillar dealer, William Adams Pty Ltd has established a relationship with the provider of logistical support services to the USA Antarctic Science Program, Antarctic Support Associates (ASA).

Headquartered in Denver, Colorado, ASA is a joint venture between engineering and construction company, Holmes and Narver and specialised electronics design and component manufacturer, EG&G and was formed to bid for the US Antarctic program contract back in 1989. ASA are in their final year of the 10 year term won at that time, with advice of new contract outcomes due at the time of writing, anytime now.

Foundation Chairman of the TPN, Jim Playsted visited ASA in May of 1998 and again in May of this year to learn more of the ASA experience and share information related to materials handling, diesel power station, and traverse machine technology.

Jim reports that the ASA team lead by Director, Ron Koger has welcomed the William Adams interest and the prospect of sharing information and ideas with a like minded organisation. For the benefit of TPN members William Adams has provided the following profile of ASA operations.

CONTRACT POINTS OF NOTE

- > Since establishing in 1989 ASA has supported USA science and research programs as participating expeditioner numbers have grown from approximately 300 to over 700 in the 1997/98 season.
- > The size of the operation now in place is significant with a community to support at McMurdo/South Pole Bases of 1,200 and Palmer Base 40 at peak season.
- > The sole business of ASA is performance of the US Government contract with the National Science Foundation (NSF).
- > The ASA budget comes from the NSF Annual Budget of USD \$3.7 billion. Polar operations get \$220 million - ASA \$100 million of this, the balance going to Navy, Airforce and grants to Universities for Antarctic Science Projects.
- > In 1997/98 ASA supported 185 agreed projects involving 730 investigator scientist/expeditioners at McMurdo, South Pole and Palmer Stations, two major field camps and two research vessels.
- > ASA is a profit focused business and earns a fee based upon an agreed margin which is in turn influenced by criteria similar to a bonus system, using performance parameters. Their performance 'score' has increased every year.
- > Of the US \$100 million they turn
 - + Two thirds to three quarters goes to outside suppliers hence management of supply contracts / relationships is a big part of their business. Competitive purchasing occurs for decisions of \$2,500

and above. Seventy five percent of all purchases are competitive and over 55% of all purchases are directed to small business as a matter of Government policy.

- + Subcontracts (including shipping, aeroplanes, etc.) purchasing and leasing amount to \$65 mil.
- + Labour and other costs \$33 million.
- + 8,000 purchase transactions were tallied in 1997/98 season.
- + They have a full time staff of 250 and have had seasonal contract staff of 650 at a peak.
- + Savings generated by “privatisation” of the USA program are valued at \$8-9 million per year. through the use of contract labour (formerly full time Navy and other government personnel.)
- + They must employ US citizens as a condition of contract.
- + They must purchase US products/supplies likewise. Outside purchases can be made by exception for products not made in the USA.
- + They use domestic air carriers to move people USA/Christchurch (United Air). Christchurch - south to McMurdo is provided by the New York National Guard. The total air transport contract is worth \$1.8 USD million annually.
- + Major contracts (with e.g. ship owners) are assignable, that is should ASA not be renewed as the preferred contract organisation, the successful tenderer will assume responsibility for the contract negotiated by ASA.
- + They manage a fleet of 300 pieces of equipment at McMurdo and 20 at the South Pole - all types including Caterpillar plus light vehicles, trucks etc. A replacement program is about to start for 51 trucks and 17 vans. The Cat fleet takes everything from IT28 material handlers to D9 dozers. Total assets and stock under management \$47 USD million and 6000 items.

NSF SCIENCE FUNDS DISTRIBUTION

Although the NSF is a large agency of 1200 employees administering the annual disbursement of \$3.7 billion USD, the method of Antarctic Science project selection and funding is interesting - particularly in the aftermath of the ASAC report into Australia’s continued Antarctic presence and future strategy for same.

- > The NSF make a call for science projects among universities nationwide.
- > The ASA are asked to review nominations with a view to forming budgets and strategic logistic overview advice.
- > The NSF then conduct a “peer review” of nominated projects drawing representatives from institutions/ organisations involved, to make the final selection.
- > ASA are making their budgets/plans 18 months before the event in this way,

- > ASA then meet NSF to agree on the scope of work for the season concerned, and thus the budget which is agreed at cost plus a margin percent which is in the ASA contract. This “open book” policy is designed to protect and enhance the integrity of the process in terms of trust and honest trading between partners.
- > Performance parameters are then also agreed against the scope of work negotiated and at season end a review is held to determine the “score”, thus the profit level for ASA that year.

This separately limits expenditure to that agreed and ensures an otherwise government funded program is contained within commercial realities. It is also true to say that efficiencies so created have in turn increased funds available to the science program.

THE ASA ORGANISATION IS RESPONSIBLE FOR:

- > Subcontracts, purchases and leases of USD \$65 million (1997/98) which includes \$25 million in major contracts.
- > RV Nathaniel B Palmer.
- > RV Lawrence M Gould.
- > Waste management, retrograde/recycling of materials.
- > Power and water plant at McMurdo.
- > Monitoring of ozone hole.
- > Scientific services and equipment.
- > Utility aircraft (Twin Otter, etc.).
- > South American port agents.
- > Science and laboratory supplies.
- > Fuel and food for stations and ships.
- > Clothing.
- > Operation and maintenance of communications/equipment.
- > Construction and engineering.
- > Maintenance of equipment and supplies.
- > Transportation services including airlines.
- > Vessel resupply and consumables.
- > All field camps.

BENEFITS TO NEW ZEALAND

- > ASA spend less than USD \$200,000 per year in New Zealand. They buy perishables, fruit and vegetables, compressed gasses (propane, oxy, etc. cheaper than in the USA).
- > The US Government hauls all freight and fuels, etc., to the New Zealand Scott Base FOC in a contra for landing rights/charges in New Zealand.
- > Some machinery used to come out of New Zealand but better quality control and program management has reduced this to an absolute minimum since it is also now a major cost disincentive for ASA.
- > 99% of all food consumed is shipped frozen from the USA in **ONE** shipment each year by container ship.

SUMMARY

“The panel recognised the value of competition in assuring a high level of performance by the contractor, but it also recognises the value of continuity.”

- (Report of the US Antarctic Program external panel, 1997).

- + Reduced logistical support costs by 28%.
- + Savings of USD \$8.3 million directly.
- + Increased solid waste recycling from 29% to 70%

Perhaps the most impressive aspect of getting to know ASA is the high regard in which they are held by the National Science Foundation.

The quality of leadership, vision and integrity of the ASA team are evident after a short time among their people and the example starts right at the top, from Director, Ron Kroger.

To that extent, they are not only an efficient business operation but an example also of a high level of trust and partnering model between the US Federal Government and industry.

Interested members can visit the ASA home page on <http://www.asa.org> or in person with some fore-warning. Either of Deputy Director, Jim Chambers or Ron Kroger are usually available.

Jim Playsted.

POLAR PUBLICATIONS

BOOKS:

‘ANTARCTICA AND BACK IN SIXTY DAYS’ by Tim Bowden. Published by Allen & Unwin. Price: \$19.95. Based on Tim’s journal kept on his voyage to Antarctica in 1998.

‘MAWSON: A LIFE’ by Phillip Ayres. Published by Melbourne University Press. Price: \$39.95

This biography examines all aspects of Mawson’s contribution to Australia, not just as an Antarctic explorer, but as one of the founders of the Australian Academy of Science, a geologist, an academic and a significant civic figure.

‘VEGETATION OF TASMANIA’. Compiled and edited by James Reid, Robert Hill, Michael Brown and Mark Hovenden. Price: \$60. This book covers all of Tasmania’s major terrestrial vegetation types, starting with the flowering plants with enclosed seeds which migrated across Antarctica to Tasmania (called the Gondwanic Waltz) thousands of years ago.

‘ANTARCTICA’ by Jeff Rubin. Published by Lonely Planet. Second Edition due to be published in July 2000.

IFRTP

FRENCH INSTITUTE FOR POLAR RESEARCH AND TECHNOLOGY

Their research ship L'Astrolabe remains moored in Hobart Port for the duration of the Antarctic off-season. More easily recognised by its red, white and blue livery, and until recently, by the large letters FISH painted on the bows, L'Astrolabe is used to supply and re-supply the French Antarctic bases of Dumont d'Urville and the new base, Dome C, making about five return voyages per season.

As a result of L'Astrolabe being based in Hobart, during a single season the French Institute for Polar Research and Technology injects several million dollars into the Tasmanian economy.

Not bad for an Institute with its headquarters more than 17,700 kilometres away in Brest, France!



L'Astrolabe in Hobart Port for the winter.

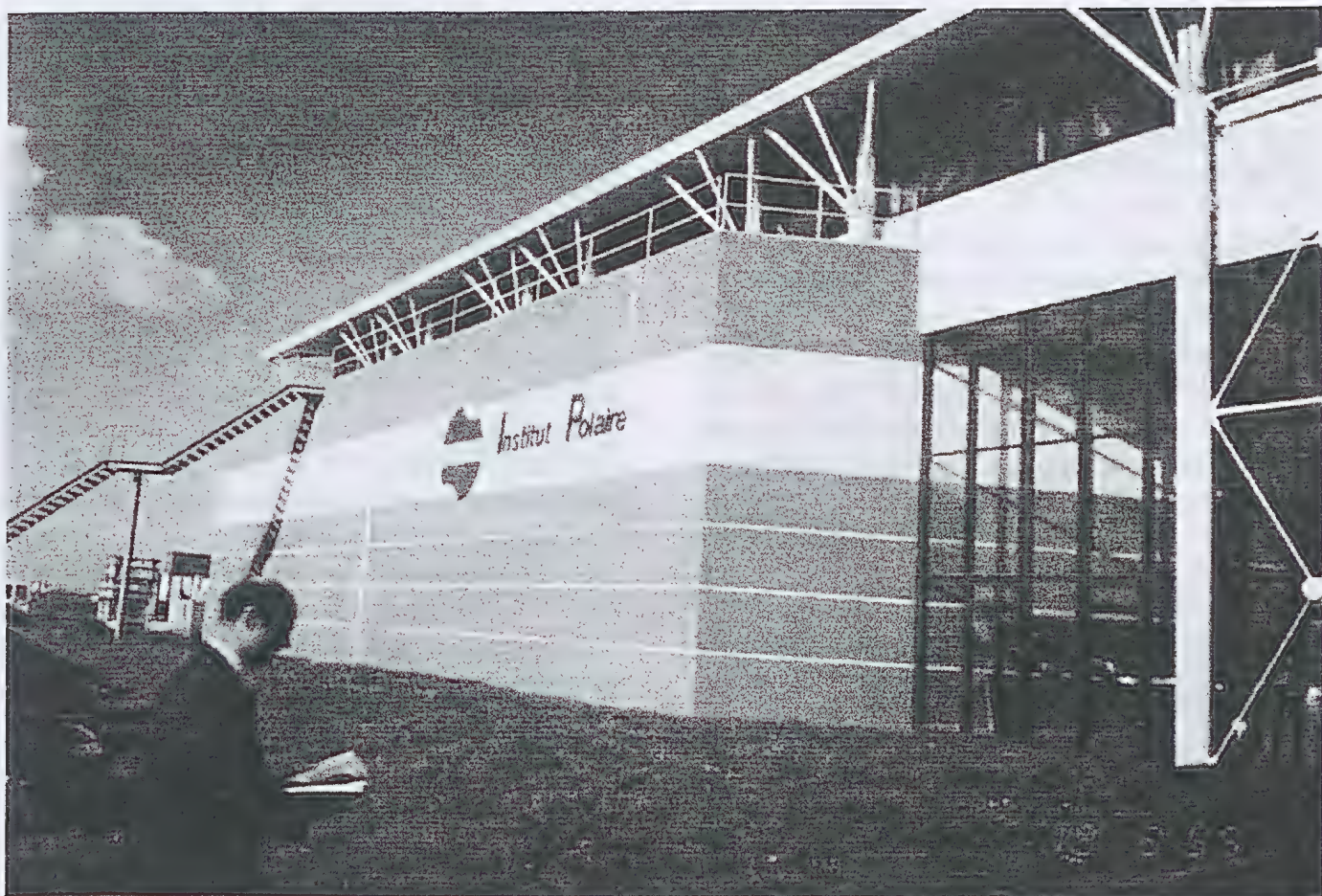
Brest Airport, though even smaller than that of Hobart, is clean and friendly feeling and gives the first indication of the way that the community, business and Government have worked together to encourage trade and tourism to this coastal town. On the outside wall of the terminal building in large letters is the sign "BREST CHAMBER OF COMMERCE INTERNATIONAL AIRPORT".

Brest, with a population of over 200,000 people, is slightly larger than Hobart, and is supported mostly by the large Naval Base, the shipyards, and modern engineering and chemical factories. Like Hobart, the town centre is designed to cater for pedestrians even at the expense of vehicles who, other than buses and taxis, are required to detour around the outside of the area.

The building housing IFRTP is some kilometres away from the town centre, situated in a large modern technopark overlooking the ocean. The Institute was created in 1992 to take on the scientific activities previously undertaken by the French Antarctic and Austral Territories office, (TAAF) as well as the French Polar Expeditions association, (EPF). This new united Institute now looks after the complete management of the French Dumont-d'Urville base in Adelie Land, as well as the scientific management of the bases located on Crozet, Kerguelen and Amsterdam-Saint-Paul Islands.

The polar research programmes carried out are multidisciplinary and are designed to make the most of the unique opportunities offered by the presence of the magnetic and geographic poles, by the huge ice-caps and ice-covered ocean areas, by a continental plate involved in the continental drift, and by a fauna adapted to extremely severe conditions.

Of the annual budget of around 115 million francs that the Institute receives, over 80% is directly



The building that houses the French Institute for Polar Research and Technology is situated in the open rolling grounds of the Brest-Iroise Science and High Technology Park with a clear view over the ocean.

allocated to the funding and implementing of on-site programmes. Approximately forty programmes are selected each year covering the fields of external and internal geophysics, atmospheric chemistry and physics, glaciology, oceanography, biology, medicine and social sciences.

These funds are divided as required to support research in the Arctic as well as at the Antarctic and sub-Antarctic French Bases.

The sub-Antarctic research is maintained with the chartered 120m long vessel "Le Marion-Dufresne". This multipurpose logistics/research vessel operates out of Reunion Island to link Crozet, Kerguelen and Amsterdam-Saint-Paul, and also carries out oceanographic research in the Indian and Austral Oceans for IFRTP.

In addition to Le Marion-Dufresne, there is a 25m long vessel devoted to scientific logistics and coastal research based in Kerguelen to supplement the activities of the larger ship.

According to the Deputy Director of IFRTP, Jean-Jacques Reyser, of the funds allocated to L'Astrolabe research programmes, almost half is spent in Tasmania.

THE VISIT

On a visit to the Institute in March this year, the ICE BREAKER team were met by Jean-Jacques Reyser, the Deputy Director of IFRTP, who took the time to discuss the workings of the Institute, and to hand out brochures, maps of the bases, as well as information packs and T-shirts as souvenirs.

Continued overleaf. . .

of our visit. In return he was given information packs about the Tasmanian Polar Network and several copies of ICE BREAKER magazine Issue No.6. Following this Mr. Reyser took us on a guided tour of the IF RTP facility.

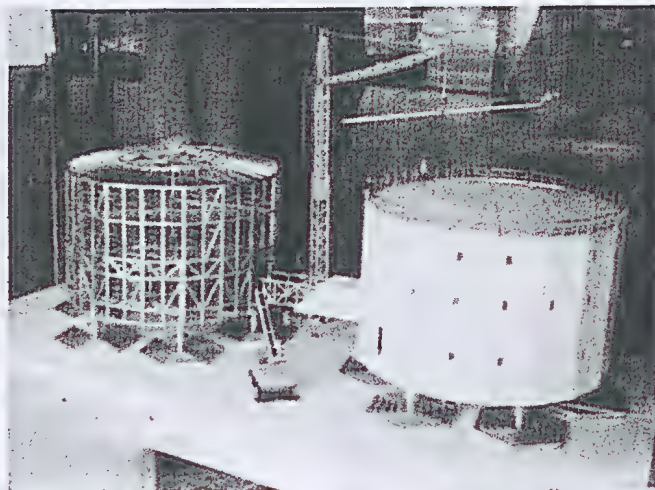
This began with the Director's office (who was absent at the time) and continued on to include the library which has a multilingual collection of books, periodicals, maps and references all dealing with polar and sub-polar regions. The librarian explained that the library welcomes all new material to add to its expanding wealth of knowledge, irrespective of the language that it is written in.



A section of the modern IF RTP library with the mobile wheel mounted racks of books.

Following the visit to the library, we were shown the various offices and introduced to the people staffing them. It was during this tour that there was a brief reunion with Patrice Godon who has himself visited Hobart many times in the past.

The tour then moved on to the stores to see the types of equipment and cold weather gear used by their expeditioners, and ended in the display area with its models and photographs of the French bases, the research ships, and an excellent model of the new Dome C complex.



A model of Dome C in the display section of the Polar Institute in Brest.

While we waited for the taxi that had been called to take us back to our hotel in central Brest, Jean-Jacques Reyser explained how much he regretted the fact that for any meetings on policy or regarding specific expeditions, he always had to travel to Paris. "The Parisians would never travel to Brest for a meeting," he said. "Unlike in Australia where the people from Canberra readily travel to Hobart." MW



The Deputy Director of IF RTP, Jean-Jacques Reyser posing with visitors to the Institute.

POLAR NEWS

POLAR WAVE

CSIRO scientists in Hobart recently discovered the Antarctic Circle Polar Wave, a pulse of warm water that continually circles the globe around Antarctica. Three-year-time-lapse photographs revealed changes in the Southern Ocean which, once analysed, will be integrated with the Southern Oscillation Index that predicts likely climate and weather conditions in Australia, nine months in advance.

The Centre for Climatic Applications (CCA) in Toowoomba, Queensland and the Schipps Institute of Oceanography in San Diego, California will be studying the Polar Wave to assess its influence on climate forecasting, which has a significant impact on a range of Australian industries and their commercial advantage in a competitive world market.

NEW MARINE RESERVES

Senator Robert Hill has declared a 16 million hectare Marine Park around Macquarie Island to protect important breeding grounds for species of seal, penguin and albatross. Earlier this year the Tasmanian Seamounts Marine Reserve, a 370 sq km area in the Southern Ocean 170 kms from Hobart was also partially preserved by using a vertical zoning system in which areas below 500 metres are highly protected and the upper 500 metres become a managed resource zone.

SOUTHERN SEaweeds

Antarctic marine biologist Fiona Scott has donated her collection of 3500 individual specimens of macro algae found in the Southern Hemisphere to the Tasmanian Museum and Art Gallery. The seaweed was gathered during Fiona's scuba diving excursions in isolated areas, including Antarctica, the Southern Ocean and South Atlantic.

MORE ADVENTURE

Hobart's Antarctic Adventure has been branded a "problem asset" by its owners, Macquarie Leisure Trust, because the centre recorded a decline in visitor numbers and a 37% drop in revenue in the last quarter. However, new exhibits, such as the Mawson Exhibition which opens this month, more interactive games, and the purchase of a new projector for evening film sessions are just a few of the centre's plans for developing more attractions and boost attendance.

POLAR BONES

Fossilised dinosaur bones, which have recently been found on islands near the tip of the Antarctic Peninsula, give strong support to the continental drift theory. The remains of a Mosasaur, an alligator-like creature with paddles, and a Plesiosaur, similar to the Loch Ness monster, were found on the Vega and Seymour Islands, and an unknown type of Iguanodon, a dinosaur which adapted to temperate climate and was first found in Britain, was found on James Ross Island.

FRENCH POLAR RESUPPLY

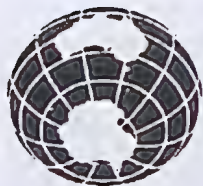
Premier Jim Bacon's meeting with the French Antarctic Territories Administrator, Marie Girardin, has confirmed that Hobart will still be L'ASTROLABE's major resupply port, despite some French Antarctic logistical support being relocated to Reunion Island in the Indian Ocean. A suggestion that a sister port relationship with St Pierre de Reunion be established will be considered.

CAT REDUCTION

A program for managing vertebrate pests on Macquarie Island, started 20 years ago, is proving successful, with all but feral cats being eliminated. At present there are no rabbits, rats, mice or wekas (NZ flightless birds), and the cat population is now so reduced that it is estimated all cats will be eradicated within 3-5 years.

Antarctic Protection

The following information has been taken from a brochure published by the Australian Antarctic Division for distribution to those TPN members who attended the Expo at the Division on June 29th this year. It has been included in this edition of ICE BREAKER magazine in the hope that others with an involvement in Antarctic matters might take note, and benefit from this information. It has been published with the kind permission of the AAD.



DEPARTMENT OF THE ENVIRONMENT AND HERITAGE

Australian Antarctic Division

The Madrid Protocol is an international Protocol on Environmental Protection to the Antarctic Treaty.

The Protocol provides comprehensive environmental protection for Antarctica.

It contains five Annexes:

- * Environmental Impact Assessment
- * Conservation of Fauna and Flora
- * Waste Disposal and Waste Management
- * Prevention of Marine Pollution
- * Area Protection and Management

Australia implements the Madrid Protocol through The Antarctic Treaty (Environment Protection) Act 1980.

The Australian Antarctic Division supports the Antarctic Treaty system and Australia's influence in the system. It administers activity within the Australian Antarctic Territory, conducts research, and is charged with the protection and conservation of the Antarctic environment.

The Antarctic Division's function to protect and conserve the Antarctic environment requires it to:

- * Develop operational policy and procedures including matters such as waste management strategy
- * Monitor compliance with waste management practice and procedures
- * Prepare environmental management plans
- * Conduct environmental audit inspections

Under the Act it is an offence to bring into Antarctica:

- * Polychlorinated biphenyl's (PCB's)
- * Polystyrene beads, chips, or any similar kind of packaging material
- * Pesticides (there are some exceptions)
- * Non-sterile soil
- * Live birds not indigenous to Antarctica
- * Material likely to cause diseases in wildlife

**Help us make
a difference!**

Help the Division to reduce the impact that your products have on the Antarctic environment.


Rethink the way that you package goods:

- * Think bulk packaging
- * Avoid plastic packaging bands
- * Avoid polystyrene, PVC, polyurethane foam
- * Avoid plastics except for rubber and low density polyethylene
- * Avoid treated wood products such as packing crates and pallets
- * Avoid using products that contain additives that could produce harmful emissions if incinerated

(continued over)

Where possible use environmentally friendly constituents in your products, e.g. cleaning, laundry and toiletry products.

The Division prefers and welcomes products that can easily be recycled or reused.

Remember to reduce, reuse, recycle 

Polystyrene beads can easily be blown around and if eaten by the wildlife can kill.

The amount of wastes produced or disposed of in the Antarctic needs to be reduced as far as practicable so as to minimise the impact on the environment and to minimise interference with the natural values of Antarctica. Recycling and source reduction are essential considerations in the planning and conduct of activities in Antarctica.

Plastic packaging bands: there is much evidence that substantial numbers of Antarctic fur seals have been entangled and killed as a result of this type of packaging.

The Antarctic Division welcomes any new environmental initiatives and ideas to help to keep Antarctica cleaner.

For any suggestions or questions please contact the Environment Management Section on:

(03) 62323506

(03) 62323507

(03) 62323510

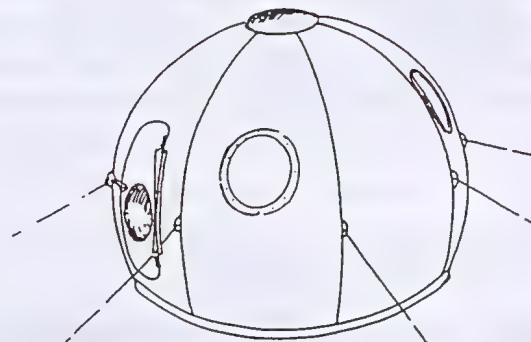
E-mail: ems@antdiv.gov.au

ICE
BREAKER

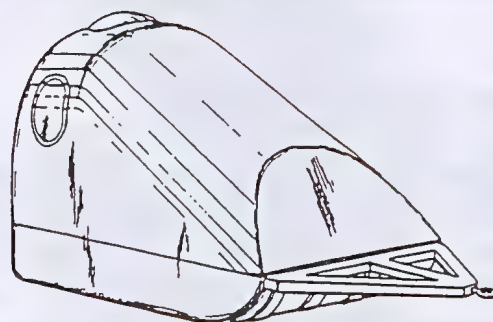
MALCOLM WALLHEAD AND ASSOCIATES

Watsons Road, Kettering, Tasmania,
Australia 7155

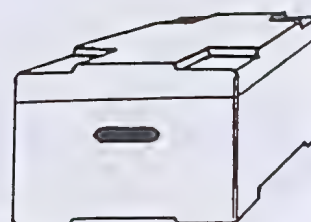
FAX: + 613 6267 4335



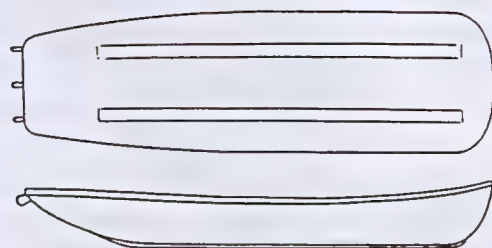
IGLOO SATELLITE CABIN



PolyPod *SnowCamper* Sledge



STACKABLE SLEDGE BOXES



EXPEDITION AND RESCUE SLEDGES

POLAR FIELD EQUIPMENT

POLAR NEWS

MARINE RESEARCH FUNDING

Projects which recently received funding from the Fisheries Research and Development Corporation include a study of Arrow Squid in the Southern Ocean, as well as a project aimed at developing a seal protection system for marine farming pens.

NEW ANTARCTIC STAMPS

Australia Post's latest issue of Antarctic-related stamps honour Sir Douglas Mawson, Mawson's Hut and its restoration, and a team of huskies.

MORE MAWSON SUPPORT

Alderman Marti Zucco has supported the idea put forward by Jennifer Trethewey, Manager of Antarctic Adventure, by suggesting the proposed Maritime Place on Hobart's waterfront have its name changed to Mawson Place.

ICE BERG THREAT

Shipping between South America and Antarctica has been alerted by the US National Ice Centre to look out for an ice berg moving south-east in that area, 11-14 kms a day. The berg, called B-10A, measures 38.5 km by 77 km.

POLAR BITE

A collection of Captain Robert Scott's Antarctic Expedition memorabilia will be auctioned at Christie's in London next month. Amongst the items for sale is a biscuit, still in its original greaseproof wrapper, which is expected to sell for up to \$3,500. Also being auctioned is Scott's embroidered silk flag, which would have been flown on arrival at the South Pole.

NO ORDER TOO SMALL

Following an export order for 3 Igloo Satellite Cabins to the Korea Ocean Research and Development Institute (KORDI) in 1996, for use on their King Sejong Station on the Antarctic Peninsula, Malcolm Wallhead and Associates has received a request for non-magnetic fixtures and fittings in one of the Igloos, so that expeditioners can use it for research purposes. A parcel of stainless steel nuts, bolts and washers; rope tie-down lines, and instructions for removal of magnetic parts and installation of new parts will be on its way to KORDI soon.

MAGAZINE EXPORT

ICE BREAKER is pleased to announce its first direct export to the library of the Scott Polar Research Institute (SPRI) in Cambridge, England. On receipt of their subscription for 1999-2000, copies of Issues 1-7 were sent to the Librarian, William Mills, so that SPRI has the complete collection. Mr Mills is keen to keep up-to-date with Tasmanian activities and will "draw the Tasmanian Polar Network to the attention of all those who use this library."

ANTHEA'S WORD

It's great to have so many Antarctic-related advertisements in this issue, particularly now that copies are being sent to Victoria, NSW, England and USA. Previous issues have been distributed to polar institutes in Japan, Italy, France, The Netherlands and Germany, and all continue to draw attention to Hobart as Australia's Antarctic Capital and the polar capabilities of Tasmanian businesses.

ICE BREAKER also exchanges subscriptions with ANTARCTIC NEWS AND VIEWS, the Newsletter of the Antarctic Society of Australia and AURORA, the ANARE Club Journal, which refers to ICE BREAKER articles when relevant to their own. With Antarctic Tourism news (ANAN) now available (see report this issue) there's no excuse not to be up-to-date with a very broad range of Antarctic activities.

POLAR NEWS

MAWSON'S ANTARCTICA

Antarctic Adventure, in Salamanca Square, Hobart, are proud to present Mawson's Antarctica in a tribute to the man and his life

This is the opportunity to take a unique journey with the man who led the creation of Australian Antarctica - a legend among 20th Century explorers, Sir Douglas Mawson.

Mawson's Antarctica is an intimate view of a life marked by triumph and tragedy, embracing one of the world's greatest stories of human survival against the odds.

For the first time in Tasmania you will be able to see personal items from Mawson's legendary 1911-14 Australasian Antarctic Expedition, Including his books, journals, personal effects, full sledge and equipment. Authentic exhibits are being provided by the families of Mawson and his colleagues, the Mawson Antarctic Collection (University of Adelaide) and the Australian Antarctic Division in Hobart.

Mawson led us out of the twilight of the heroic age into the modern era of Antarctic science, Discover his passion, his challenges, his achievements and his legacy. Then take the next step and see how much more there is to discover at Antarctic Adventure.

The Mawson's Antarctica exhibition opens on the 24th of September 1999 and runs until the 16th of January 2000. It will be open daily from 10am to 5pm

For more information contact Antarctic Adventure at 2 Salamanca Place, Hobart.

Phone: (03) 62208220

E-mail: sales@antarctic.com.au

TASMANIA • AUSTRALIA

Antarctic Adventure presents

Mawson's ANTARCTICA
24 SEP - 16 JAN

a tribute to the man and his life

QANTAS
THE SPIRIT OF AUSTRALIA

Australian Air Express

HOTEL GRAND CHANCELLOR

MERCURY
TODAY'S THE DAY

Tasmania
TASMANIAN MUSEUM and ART GALLERY

WIN
TELEVISION

AIRPORT PLANS

Congratulations to Wayne Tucker and the Hobart International Airport for achieving approval from the Federal Transport Minister John Anderson for the development strategy submitted in the Airport's 5 year Master Plan. Possible passenger terminal extensions, new business development, extra car parking, as well as runway extensions and additional freight handling facilities were included in the Plan. However, no capital developments are likely to take place without an increase in passenger numbers.

NEW SHIP POTENTIAL

Cruises to Antarctica from Hobart are planned by the South Australian Shipping Company, which has purchased a 22-year-old Russian ship for this purpose. The newly named SOUTHERN AUSTRALIS will be fully refitted in Hobart and John Webb, joint owner of the shipping company, is arranging with TAFE to train people for ship work before the ship's first voyage in November this year.

As well as 3 trips to Antarctica each year, SOUTHERN AUSTRALIS will sail to Adelaide, Fremantle and Sydney, and a five day circumnavigation of Tasmania is also being planned. The ship is 100 metres long and can carry up to 130 passengers in 4-berth cabins with individual bathrooms. The first 21-day trip to Antarctica will leave Hobart on January 4, 2000 to visit both Macquarie Island and the Antarctic continent.

NO SOLO

Isabelle Autissier, the French yachtswoman who has twice been rescued during attempts to solo-circumnavigate the world, will return to the Southern Ocean this summer. The French Government recently appointed her to the authority that oversees the French Southern Ocean and Antarctic Territories, and in November she will spend 6 weeks exploring and sketching on Kerguelen Islands. Her means of transport will be the French polar supply vessel MARION DUFRESNE so that her commitment to never sail solo again is upheld.

AUSTRALIAN ANTARCTIC DIVISION - EVENTS AND VISITORS

> Dr Akira Ishikawa from Mie University, Japan, is the recipient of a postdoctoral fellowship from the Japanese society for the Promotion of Science to enable him to work in the Australian Antarctic Division (AAD) with Drs Harvey Marchant and Graham Hosie on zooplankton food and grazing.

> Dr Suzanne Roy from the Institute of Marine Sciences University of Quebec, Rimouski, Canada is working on sabbatical leave in the AAD with Dr Simon Wright on pigments of Antarctic phytoplankton.

> Dr Minoru Odamaki visited the AAD at the end of August to discuss the tide gauge network in Antarctica. Dr Odamaki is the Deputy Director of the Ocean Surveys Division of the Hydrographic Department of the Maritime Safety Agency. This Division sends two officers to the Japan Antarctic Research Expedition every year to carry out oceanographic observations en route to Antarctica with the ice-breaker SHIRASE, and tidal observations around Syowa Station.

> A Scientific Review of the Antarctic CRC will take place during September-December, with a visit to the CRC by a team of three reviewers. The first reviewer to visit, on September 23-24, will be Dr Ken Jezek (Byrd Polar Research Institute, Ohio, USA).

> Between October 11 and November 5, 1999, Drs Richard Williams and Andrew Constable will be attending the CCAMLR Working Group - Fishstock Assessment; then the CCAMLR Science Committee and the Commission Meeting.

> Some information about the XXVI SCAR Meeting to be held on July 10-22, 2000, at the National Olympic Memorial Youth Centre in Tokyo, Japan, can be obtained from the following website:
www.nipr.ac.jp/SCAR-COMNAP-2000-TOKYO

Veronica Dickson
Antarctic Division

HOBART

Gateway to Antarctica

For much of this century, explorers and scientists have passed through Hobart on their way to Antarctica and the southern islands.

The reason is simple. If you are heading south, the Port of Hobart is the perfect location.

It doesn't matter if you are a scientist or an observer, Australia's southernmost commercial harbour has all the services and facilities required.



HOBART PORTS CORPORATION PTY LTD

GPO Box 202 Hobart Tasmania 7001

Phone: (03) 6235 1040

Facsimile: (03) 6231 0693

email: sec@hpc.com.au

ANTARCTICA

HOBART PORTS CORPORATION ... WORKING FOR TASMANIA'S FUTURE.

SALAMANCA MAXILAB

and

THE ANTARCTIC CONNECTION

29 Salamanca Place.

Hobart

ph. 62248 244 fax 62248 233

- * Quality photo developing
- * Open 7 days a week.
- * 3rd "Australian Photography" Minilab of the Year 96/97 and 97/98
- * Comprehensive range of films, paper, chemistry, photographic equipment and cameras.
- * Duty free sales available
- * Largest supplier of photographic goods to Antarctica.
- * Large range of Antarctic souvenirs.
- * Antarctic photographs and artwork.

10% discount on all photographic services to members of Tasmanian Polar Network



Peter Johnston Pty Ltd.
Ship Chandlers and Sail Makers

A.C.N. 009 486 033

**Suppliers of Marine
Equipment to
ANTARCTIC EXPEDITIONS
SINCE 1964**

Phone (03) 6234 5422

ANTARCTIC TOURISM NEWS

Newly published is Antarctic Non-Governmental Activity News (ANAN), a newsletter aimed at providing a periodic summary of Antarctic activities undertaken by company, governmental, academic and private individuals. ANAN results from comments made by International association of Antarctic Tour Operators (IAATO) members about the difficulty in keeping up-to-date with the variety of non-government activities in the far south. The first newsletter, dispatched on 4 August 1999, lists several IAATO members' activities for 1999-2000, including Skydiving, Vinson Massif climbs, new aircraft for Adventure Network International, and larger cruise ships operating in Antarctic waters. Newsletters 2 and 3 have since been published.

Contributions are welcome and addressees can be added to the mailing list by sending a note to the following E-mail address: tourism@antdiv.gov.au. The newsletter is also available on the web at <http://www.antdiv.gov.au/tourism>.

For further information on some of the Antarctic tours scheduled for this summer season, see:

QANTAS	:	www.Antarcticflights.com.au
PEREGRINE ADVENTURES	:	www.peregrine.net.au
AURORA EXPEDITIONS	:	www.auroraexpeditions.com.au
POLAR SKY DIVING LTD	:	www.polarskydive.com/
ADVENTURE ASSOCIATES	:	www.adventureassociates.com

POLAR WEB

COLD REGIONS RESEARCH AND ENGINEERING LABORATORY:
<http://www.crrel.usace.army.mil/news/>

SURVEY OF ARCTIC MEETINGS (SAM):
<http://www.npolar.no/iasc/sam.htm>

INSTITUT FRANCAIS POUR LA RECHERCHE ET LA TECHNOLOGIE POLAIRES (IFRTP)
www.ifremer/ifrtp

ANTARCTIC ACRONYMS

NOAA - National Oceanographic and Atmospheric Administration, USA

SODAR - Sound Detection and Ranging

ERS - Earth Remote Sensing Satellite

ICAIR - International Centre for Antarctic Information and Research, NZ

EAGLE PLASTICS

- > Custom Fabrication
- > Acrylic Displays
- > Fume Cupboards
& Ducting
- > Repairs &
Plastic Welding

Phone/Fax (03) 6234 2030

320 Elizabeth St. Hobart



BOC GASES

BOC Gases are suppliers of the following:-

- ◆ Welding Suppliers
- ◆ Welding Equipment
- ◆ Industrial Gases
- ◆ Special Gases
- ◆ Safety Products
- ◆ Hospitality & Beverage Gases
- ◆ Medical Gases & Equipment
- ◆ Technical Information & Procedures

PH: 131262



BOC GASES

BOC Gases Australia Limited A.C.N. 000 029 729

EXPOSE YOURSELF

**BUY THIS SPACE NOW FOR THE
START OF THE NEW MILLENNIUM
AND LET OTHER PEOPLE KNOW
WHAT YOU DO, SELL OR PRODUCE.**

YOUR SILENCE WON'T SELL

**ORDER YOUR SPACE NOW FOR
INCLUSION IN ISSUE No 9 DUE OUT IN
DECEMBER 1999**

**ADVERTISING HELPS TO KEEP
ICE BREAKER MAGAZINE ALIVE**

PRICES ARE STILL THE SAME

¼ PAGE ONLY \$25

½ PAGE ONLY \$50

FULL PAGE \$100

EXPOSE YOURSELF

ASTROLABE BOOKSELLERS



Fine, Old & Rare Books

**Specialising in Tasmaniana
& Antarctica**

First floor, 81 Salamanca Place, Hobart
Phone /Fax: (03) 6223 8644
e-mail: astrobks@anzaab.com.au

POLAR CALENDAR

3	September	1999	Annual General Meeting, Tasmanian Polar Network. 11.am. Antarctic Adventure, Hobart, Tas.
7-8	September	1999	International Conference on the Deformation of Glacial Materials. London, UK. E-mail: byh@aber.ac.uk
17-22	September	1999	EURESCO. Polar Regions and Quarternary Climate Conference. Contact E-mail: euresco@esf.org
20-24	September	1999	COMNAP Meeting. Goa, India.
24 16	September January	1999- 2000	Mawson's Antarctica - an exhibition of Sir Douglas Mawson's personal effects from his 1911-1914 Antarctic Expedition. Antarctic Adventure. Daily 10.00 am - 5.00 pm. Hobart, Tas.
26	September	1999	Marine Discovery Centre Open Day to celebrate the 20th Anniversary of the opening of the Centre. 10.00 am - 4.00 pm. Jetty Road, Woodbridge, Tas. NEW DATE.
26-30	September	1999	International Geographical Union Conference - Periglacial Environments: Past, Present and Future. Lodz, Poland. E-mail: czwart@krysia.uin.lodz.pl
30	September	1999	Entries close for the Aurora "Southern Lights" Photographic Competition. NEW DATE.
25 5	October November	1999- 1999	CCAMLR Meetings. Hobart, Tas.
31 6	January February	2000- 2000	ISCORD 2000. INTERNATIONAL SYMPOSIUM ON COLD REGION DEVELOPMENT. Hobart, Tas. Details and Newsletter on the following website: www.ancrc.utas.edu.au/iscord
8-12	May	2000	2nd International Conference on Biology and Conservation of Albatrosses and Other Petrels. Hawaii. Contact E-mail: Beth_Flint@fws.gov
28 2	May June	2000- 2000	TEMP 2000: Insect and Plant Cold Hardiness. University of Victoria, Canada. Contact E-mail: pcmcguire@uvic.ca
19-23	June	2000	International Glaciological Society Symposium on Sea Ice and its Interactions with the Ocean, Atmosphere and Biosphere. Fairbanks, Alaska, USA. Contact Simon Ommanney, E-mail: 100751.1667@compuserve.com
25-28	June	2000	International Association of Antarctic Tour Operators (IAATO) Meeting. Hobart, Tas.
10-22	July	2000	SCAR/COMNAP Meetings. Tokyo, Japan. Exhibition 10-13 July.



HELICOPTER RESOURCES PTY LTD

With over twenty years of Antarctic experience Helicopter Resources has forged an enviable record in the service and support of Antarctic operations.

Helicopter Resources is committed to safety reliability and customer satisfaction.

Helicopter Resources are experts in the field of Antarctic helicopter support.

Phone: 03 6248 5130
Fax : 03 6248 5342
e-mail: helioreshobart@southcom.com.au
Post : PO box 321 Rosny Tasmania 7018



ROTO PLAS

209 WATSONS RD
KETTERING TASMANIA 7155
PH: (03) 6267 4404 FAX: (03) 6267 4865
INC. ALU-WELD

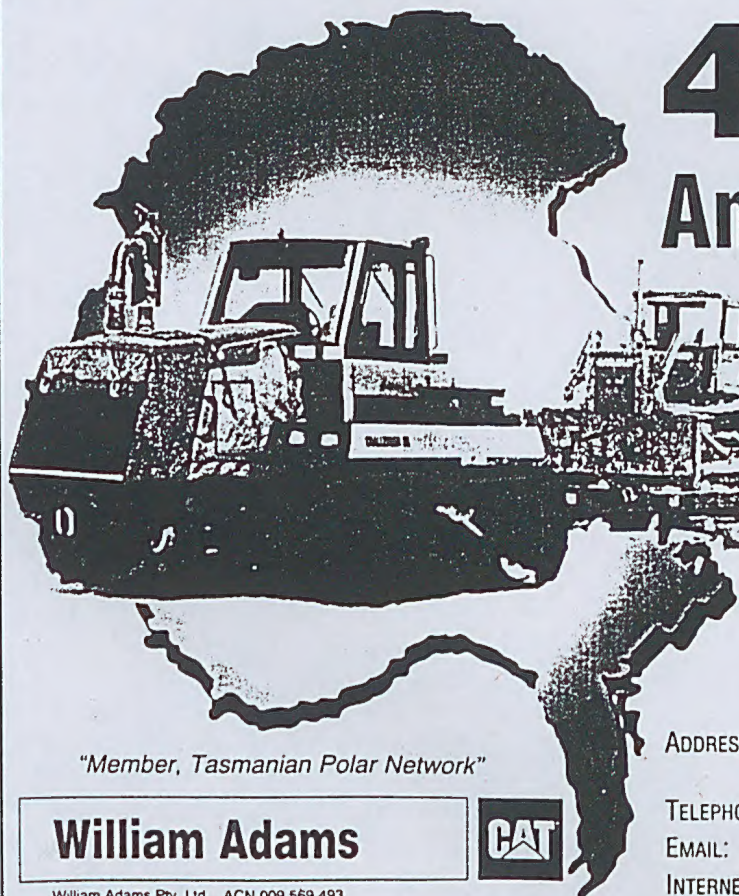
**1000 L Sealable, fork and top
lift, poly cubes. Shipping
container compatible.**

**Ice core sample poly storage
trays.**

Aluminium ice & snow pegs.

And anything in between.

**Designed and manufactured in
Kettering, Tasmania.**



42 years Antarctic service.

William Adams and Caterpillar are the specialist suppliers of purpose built, Australian developed, traverse systems, materials handling equipment and power generation packages.

With 42 years of Antarctic experience our Polar Services Group can supply a full range of logistical and support services.

"Member, Tasmanian Polar Network"

William Adams

William Adams Pty. Ltd. ACN 009 569 493



ADDRESS: 2 Chardonnay Drive, Berriedale, Tasmania, Australia.
P.O. Box 124, Glenorchy, Tasmania 7010.

TELEPHONE: +61 3 6249 0566 FACSIMILE: +61 3 6249 5574

EMAIL: wadams@wadams.com.au

INTERNET: <http://www.wadams.com.au>

THE BACK PAGE

ANTARCTIC AND SOUTHERN OCEAN SHIPPING CALENDAR

8	September	1999	AURORA AUSTRALIS V1	Arrives Hobart.
4	October	1999	AURORA AUSTRALIS V2	Departs Hobart.
12	October	1999	AURORA AUSTRALIS V2	Marine Science.
18-20	October	1999	AURORA AUSTRALIS V2	Mawson Base.
25-29	October	1999	AURORA AUSTRALIS V2	Davis Base.
9	November	1999	AURORA AUSTRALIS V2	Arrives Hobart.
11	November	1999	KAP. KHLEBNIKOV V2.1	Departs Hobart for Casey Base.
11	November	1999	AURORA AUSTRALIS V3	Departs Hobart for Macquarie Island.
14-20	November	1999	AURORA AUSTRALIS V3	Macquarie Island.
18-23	November	1999	KAP. KHLEBNIKOV V2.1	Casey Base.
23	November	1999	AURORA AUSTRALIS V3	Arrives Hobart.
25	November	1999	AURORA AUSTRALIS V4	Departs Hobart for Marine Science.
1	December	1999	KAP. KHLEBNIKOV V2.1	Arrives Hobart.
1-24	December	1999	AURORA AUSTRALIS V4	Seal survey.
21	December	1999	CRYSTAL SYMPHONY	Arrives Hobart from Melbourne, departs for NZ.
23-24	December	1999	LEGEND OF THE SEAS	Arrives Hobart from Melbourne, departs for NZ.
26-27	December	1999	AURORA AUSTRALIS V4	Davis Base.
27-30	December	1999	AURORA AUSTRALIS V4	Sansom Island.
31	December	1999	AURORA AUSTRALIS V4	Davis Base.
4-9	January	2000	AURORA AUSTRALIS V4	Mawson Base.